

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A pulverulent formaldehyde-free binder composition consisting of

- a) 40% by weight to 60% by weight, based on the binder composition, of a pulverulent copolymer polymerized from maleic anhydride and at least one α -olefin as component A; and also
- b) 40% by weight to 60% by weight, based on the binder composition, of at least one pulverulent crosslinker which has two or more reactive groups capable of reacting with the carbonyl groups of maleic anhydride, wherein said crosslinker is selected from the group consisting of trimethylolpropane, 1,6-hexanediol, pentaerythriol, neopentylglycol, L-lysine, sorbitol, polyvinyl alcohol and bisdiethanolamide of adipic acid, as component B; and also
- c) optionally further additive materials selected from the group consisting of antiblocking agents, antifoaming agents, emulsifiers, dyes, flame retardants, fillers, fungicides, coupling agents, hydrophobicizers, insecticides, catalysts, pigments, rheological assistants, thickeners, filming agents, plasticizers and cocrosslinkers; and
- d) optionally at least one crosslinking catalyst.

Claim 2 (Original): A binder composition as claimed in claim 1, wherein the maleic anhydride fraction in the copolymer is up to 50% by weight, based on the copolymer.

Claim 3 (Canceled).

Claim 4 (Previously Presented): A binder composition as claimed in claim 1, wherein the α -olefin is a C₄-to C₃₂- α -olefin.

Claim 5 (Canceled).

Claim 6 (Previously Presented): A binder composition as claimed in claim 1, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker less than 250°C.

Claim 7 (Previously Presented): A binder composition as claimed in claim 1, wherein the binder composition has a storage modulus G' which initially decreases at least once to a value $\leq 10^8$ Pa, and then rises again, on heating from 50°C to 300°C.

Claim 8 (Currently Amended): A pulverulent formaldehyde-free binder composition consisting of

- a) a pulverulent copolymer formed from 25 mol% to 50 mol%, based on the copolymer, of maleic anhydride and at least one α -olefin and styrene as component A'; and
- b) at least one pulverulent crosslinker which has two or more reactive groups capable of reacting with the carbonyl groups of maleic anhydride, wherein the crosslinker is selected from the group consisting of trimethylolpropane, 1,6-hexanediol, pentaerythriol, neopentylglycol, L-lysine, sorbitol, polyvinyl alcohol and bisdiethanolamide of adipic acid, as component B; and also
- c) optionally further additive materials selected from the group consisting of antiblocking agents, antifoaming agents, emulsifiers, dyes, flame retardants, fillers, fungicides, coupling agents, hydrophobicizers, insecticides, catalysts, pigments, rheological assistants, thickeners, filming agents, plasticizers and cocrosslinkers; and

d) optionally at least one crosslinking catalyst.

Claim 9 (Previously Presented): A binder composition as claimed in claim 8, wherein the copolymer fraction in the binder composition is in the range from 5% by weight to 95% by weight based on the binder composition, and wherein the crosslinker fraction in the binder composition is in the range from 5 to 95% by weight based on the binder composition.

Claim 10 (Previously Presented): A binder composition as claimed in claim 8, wherein the α -olefin is a C₃₂- α -olefin.

Claim 11 (Canceled):

Claim 12 (Previously Presented): A binder composition as claimed in claim 8, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker is less than 250°C.

Claim 13 (Previously Presented): A binder composition as claimed in claim 8, wherein the binder composition has a storage modulus G' which initially decreases at least once to a value $\leq 10^8$ Pa, and then rises again, on heating from 50°C to 300°C.

Claim 14 (Previously Presented): A process for binding fibrous or granular substrates or fibrous and granular substrates, which comprises a pulverulent formaldehyde-free binder composition as claimed in claim 1 being mixed with fibrous or granular substrates

or fibrous and granular substrates and binding the latter in the presence or absence of at least one catalyst.

Claim 15 (Previously Presented): A process as claimed in claim 14, wherein the fibrous or granular substrate or the fibrous and granular substrate is selected from the group consisting of rockwool fibers, mineral fibers, glass fibers, wood fibers, hemp fibers, sisal fibers, jute fibers, flax fibers, textile fibers, wool fibers, cotton fibers, cellulose fibers, synthetic fibers, wood chips, cork granules, sand, and aluminum oxides.

Claim 16 (Previously Presented): A process for binding fibrous or granular substrates or fibrous and granular substrates, which comprises a pulverulent formaldehyde-free binder composition as claimed in claim 8 being mixed with fibrous or granular substrates or fibrous and granular substrates and binding the latter in the presence or absence of at least one catalyst.

Claim 17 (Previously Presented): A process as claimed in claim 16, wherein the fibrous or granular substrate or the fibrous and granular substrate is selected from the group consisting of rockwool fibers, mineral fibers, glass fibers, wood fibers, hemp fibers, sisal fibers, jute fibers, flax fibers, textile fibers, wool fibers, cotton fibers, cellulose fibers and synthetic fibers, wood chips, cork granules, sand, and aluminum oxides.

Claim 18 (Previously Presented): A product obtained by the process of claim 14.

Claim 19 (Previously Presented): A product obtained by the process of claim 16.

Claim 20 (Previously Presented): A binder composition as claimed in claim 1, wherein the α -olefin is a C₄- to C₈- α -olefin.

Claim 21 (Previously Presented): A binder composition as claimed in claim 1, wherein the α -olefin is a C₄- to C₆- α -olefin.

Claim 22 (Previously Presented): A binder composition as claimed in claim 1, wherein the α -olefin is isobutene or diisobutene.

Claim 23 (Canceled).

Claim 24 (Previously Presented): A binder composition as claimed in claim 1, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker is less than 200°C.

Claim 25 (Previously Presented): A binder composition as claimed in claim 1, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker is less than 180°C.

Claim 26 (Previously Presented): A binder composition as claimed in claim 1, wherein the binder composition has storage modulus G' which initially decreases at least once to a value of $\leq 10^7$ Pa, and then rises again, on heating from 50°C to 250°C.

Claim 27 (Previously Presented): A binder composition as claimed in claim 1, wherein the binder composition has a storage modulus G' which initially decreases at least once to a value of $\leq 10^5$ Pa, and then rises again on heating from 80°C to 250°C.

Claim 28 (Previously Presented): A binder composition as claimed in claim 8, wherein the polymer fraction in the binder composition in the range from 40% by weight to 90% by weight, based on the binder composition, and wherein the crosslinker fraction in the binder composition is in the range from 10 to 60% by weight, based on the binder composition.

Claim 29 (Previously Presented): A binder composition as claimed in claim 8, wherein the polymer fraction in the binder composition in the range from 40% by weight to 60% by weight, based on the binder composition, and wherein the crosslinker fraction in the binder composition is in the range from 40 to 60% by weight, based on the binder composition.

Claim 30 (Previously Presented): A binder composition as claimed in claim 8, wherein the α -olefin is a C_4 - to C_8 - α -olefin.

Claim 31 (Previously Presented): A binder composition as claimed in claim 8, wherein the α -olefin is a C_4 - to C_6 - α -olefin.

Claim 32 (Previously Presented): A binder composition as claimed in claim 8, wherein the α -olefin is isobutene or diisobutene.

Claim 33 (Canceled):

Claim 34 (Previously Presented): A binder composition as claimed in claim 8, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker is less than 200°C.

Claim 35 (Previously Presented): A binder composition as claimed in claim 8, wherein the difference between the softening point of the copolymer and the melting or softening point of the crosslinker is less than 180°C.

Claim 36 (Previously Presented): A binder composition as claimed in claim 8, wherein the binder composition has storage modulus G' which initially decreases at least once to a value of $\leq 10^7$ Pa, and then rises again, on heating from 50°C to 250°C.

Claim 37 (Previously Presented): A binder composition as claimed in claim 8, wherein the binder composition has a storage modulus G' which initially decreases at least once to a value of $\leq 10^5$ Pa, and then rises again on heating from 80°C to 250°C.

Claim 38 (Previously Presented): The product as claimed in claim 18, wherein said product is a shaped article.

Claim 39 (Previously Presented): The product as claimed in claim 19, wherein said product is a shaped article.

Claim 40 (Canceled):

Claim 41 (Previously Presented): A binder composition as claimed in claim 1, wherein said crosslinking catalyst is selected from the group consisting of paratoluenesulfonic acid, a triphenylphosphonium halide and a quaternary ammonium compound.

Claim 42 (Previously Presented): A binder composition as claimed in claim 8, wherein said crosslinking catalyst is selected from the group consisting of paratoluenesulfonic acid, a triphenylphosphonium halide and a quaternary ammonium compound.

SUPPORT FOR THE AMENDMENTS

Claims 3, 5, and 23 were previously canceled.

Claims 11, 33, and 40 are canceled herein.

Claims 1 and 8 have been amended.

The amendment of Claims 1 and 8 is supported by the corresponding claims as originally and previously presented, as well as by the specification at page 5, lines 17-19, page 5, lines 31-32, page 6, lines 18-22 and Example 3, page 11, line 19 of the originally filed specification. Additionally, the amendment to Claim 1 is the result of adding the limitations of previously pending Claim 40 and the amendment to Claim 8 is the result of adding the limitations of previously pending Claim 33.

No new matter has been added by the present amendments.